

## 14 Foreign Investment in Telecommunications

### FLIRTATION AND RIVALRY WITH MARCONI

Despite its ambivalence at the turn of the century, the Navy initially appeared eager to embrace wireless technology. Three years after British inventor and entrepreneur Guglielmo Marconi received the first patent for the radiotelegraph in 1896,<sup>7</sup> the U.S. Navy asked him to demonstrate his device. At the completion of Marconi's demonstration, the Navy was inclined to purchase his system—that is, until Marconi revealed his excessive price and unduly restrictive terms, which dictated not only the number of units the Navy must purchase but also required the payment of annual royalties.<sup>8</sup>

Particularly galling to the Navy was Marconi's requirement that the Navy restrict its communications to only those ships and stations that owned and operated Marconi systems.<sup>9</sup> John D. Oppe, vice president and general manager of the American Marconi Company, a wholly owned subsidiary of British Marconi, detailed this restriction (along with seven others only slightly less demanding) in a strikingly presumptuous letter to the Navy's Bureau of Equipment:

Except in time of emergency or war or in the case of war vessels, the Bureau shall not use the Marconi wireless apparatus fitted at their stations for the interchange of signals with vessels or stations not equipped with apparatus provided by the Marconi company.<sup>10</sup>

7. See WHITE, *supra* note 3, at 11.

8. DOUGLAS, *supra* note 3, at 111-12.

9. *Inter-departmental Board [on] wireless Telegraphy: Inter-Departmental Board Appointed by the President to Consider the Entire Question of Wireless Telegraphy in the Service of the National Government*, Washington, D.C., 1904, in 1 DOCUMENTS, *supra* note 3, at 23.

10. *Id.*

Marconi's terms were not animated by simple avarice. He was keenly aware that he could not hope to own the ether and lease its use. Nonetheless, as the pioneer of this new frontier and the first to demonstrate its commercial potential, he believed that he rightfully deserved to reap his share of wireless' economic rewards.<sup>11</sup> The only means to ensure his "rightful" bounty, Marconi realized, was to control the gateway to its use through the creation of his own self-contained and exclusionary operating system.<sup>12</sup> As the dominant player in the emerging market of wireless, Marconi believed that if he were initially successful in imposing his exclusionary operating system on the majority of wireless users, then he would effectively control the airwaves.

Marconi's scheme, however, faced two obstacles. First, his restrictive terms and high costs rankled many of his potential customers as imperious and greedy. Second, and more critically, if Marconi succeeded in his plan, the British, who already controlled a majority of the world's submarine cables, would control the ether as well.<sup>13</sup> The prospect of conceding effective control over so strategic a military asset as communications was unacceptable to the other world powers. These considerations led the Navy to spurn the American Marconi Company and go it alone.<sup>14</sup> Selected to spearhead the Navy's initial efforts was Francis M. Barber, a retired naval officer with extensive international experience and an expertise in electrical engineering. His assignment was to procure and assemble an in-house radio telegraphy system that would, in his words, "be able to drive the American Marconi Company out of business."<sup>15</sup>

11. DOUGLAS, *supra* note 3, at 106.

12. *Id.*

13. *Id.*

14. *Id.* at 115.

15. *Quoted in id.* (letter from Commander F.M. Barber to Admiral R.B. Bradford, Chief, Bureau of Equipment, Apr. 2, 1902, National Archives, box 85).

As these sentiments reveal, considerations beyond simply price motivated the Navy's rejection of Marconi's system. Both parties were keenly aware that in the balance hung the question of who would control this new technology. Marconi's draconian terms of control were animated by his desire to earn monopoly rents on his new technology; the Navy's rejection of Marconi's system not only was a refusal to accede to his price and terms, but also reflected the Navy's own growing ambition to monopolize wireless communication. Wrote Susan Douglas: "Ironically, [the Navy] wanted exactly what they condemned Marconi for pursuing: a monopoly of the airwaves."<sup>16</sup> Thus began the fierce rivalry between the Navy and American Marconi for control over the radio waves that would produce alien ownership restrictions and create the Radio Corporation of America.

#### THE NAVY'S PATCHWORK

The Navy initially relied upon European and American equipment cobbled together not according to any assimilative technological plan, but according to what was least expensive.<sup>17</sup> Consequently, the Navy's radio communications systems became a patchwork of different manufacturers' equipment, cannibalized and reconfigured from each other to meet the Navy's idiosyncratic operational needs—needs often at odds with the efficient use of this new technology.<sup>18</sup> As a result, the Navy ended up with a fragmented wireless system that was only crudely functional.

By 1904, despite having twenty radio stations along the nation's coast and thirty-four ships equipped or being equipped with radiotelegraphs, the Navy still had no standardized operating platform.<sup>19</sup> Each radio telegraphy station used its own

16. *Id.* at 134.

17. *Id.* at 136.

18. *Id.*

19. EMORD, *supra* note 3, at 139 (citing JOHN O. ROBINSON, SPECTRUM

peculiar operating system such that radio operators, on being transferred to a new station or ship, often had to learn anew the systems and their transmitting procedures.<sup>20</sup> To overcome this problem, many a radio operator improvised his own radio unit, which he carried with him, hooking it into whatever existing system he found at his new station and removing it when he left.<sup>21</sup> Thus, four and a half years after Marconi's demonstration, the Navy had succeeded not in displacing Marconi, but in creating a system that was woefully inadequate, particularly when compared to those possessed by the world's other naval powers. In 1902, *Electrical World*—then one of the leaders of the technical press—published its somber assessment of the Navy's efforts to integrate wireless: "As matters stand now, we would be at a great disadvantage in this respect if attacked by any reasonable power."<sup>22</sup> Nor did matters improve over the next several years.

THE RUSSO-JAPANESE WAR  
AND THE ROOSEVELT BOARD

The potential consequences of the Navy's bumbling efforts were put in stark relief by a confluence of events beginning in 1904 that underscored wireless' immense military and commercial potential. On February 4, 1904, the Russo-Japanese war began when a surprise attack by Japanese torpedo boats destroyed Russia's fleet anchored in the harbor of Port Arthur.<sup>23</sup> In the culminating Battle of Tsushima in May 1905—described by

MANAGEMENT POLICY IN THE UNITED STATES: AN HISTORICAL ACCOUNT 6  
(Federal Communications Commission, Office of Plans and Policy, Apr. 1985);  
*Inter-Departmental Board*, *supra* note 9, at 7).

20. DOUGLAS, *supra* note 3, at 136.

21. *Id.*

22. *Id.* at 119 (quoting *ELECTRICAL WORLD*, vol. 40, no. 10, at 354 (1902)).

23. DUPUY & DUPUY, *supra* note 4, at 1008-09.

military historians as “the greatest naval battle of annihilation since Trafalgar”—the Japanese sank or captured all but six ships in Russia’s entire fleet, including three battleships.<sup>24</sup> Efforts to explain Japan’s stunning naval victories centered on the superiority of Japan’s Marconi wireless system over the Russian Navy’s German-made equipment.<sup>25</sup> Commercially, the Russo-Japanese War was equally significant in demonstrating wireless telegraphy’s manifold applications, as journalists for the first time used radio telegraphy to file their war reports from halfway around the world.<sup>26</sup>

The lessons of the Russo-Japanese War concerning the strategic importance of wireless communication were not lost on one particularly interested observer: President Theodore Roosevelt. Surveying the early stages of the war, Roosevelt was struck by two realizations concerning wireless technology. First, the war powerfully demonstrated the strategic significance of having an effective wireless communications system, particularly with respect to maintaining a strong navy—then viewed as the principal index of international power.<sup>27</sup> Second, Roosevelt was concerned by the radio interference generated by the press and other private wireless entities transmitting in the theater of operations, seeing them as a threat to the military’s ability to communicate effectively during wartime conditions.<sup>28</sup>

With these concerns in mind, Roosevelt appointed a presidential commission with pronounced allegiances to the Navy to analyze the “entire question of wireless telegraphy”—the Interdepartmental Board of Wireless Telegraphy, or, as it was widely known, the Roosevelt Board.<sup>29</sup> So swift was

24. *Id.* at 1014.

25. W.P. JOLLY, MARCONI 148 (Stein & Day 1972); DOUGLAS, *supra* note 3, at 123.

26. INGLIS, *supra* note 3, at 48.

27. DOUGLAS, *supra* note 3, at 123.

28. *Id.* at 123–24.

29. EMORD, *supra* note 3, at 139.

Roosevelt's action to improve America's wireless position that, by the time his Nobel prize-winning efforts brought Russia and Japan to peace in Portsmouth, New Hampshire, in August of 1905, the Board had already been at work a year studying the problems encountered by the U.S. government in its use of wireless.<sup>30</sup>

One military danger that the Roosevelt Board explicitly mentioned was the potential for torpedo boats to be equipped with radios.<sup>31</sup> Small, versatile attack vessels would be far more effective predators if radio communications could inform them of the movements of enemy ships.

Not surprisingly, the government-oriented Roosevelt Board concluded that to prevent radio interference in ship-to-ship and ship-to-shore communications, the wireless communication industry should be brought "under full governmental supervision,"<sup>32</sup> with the Navy being charged with the responsibility of overseeing the national integration of wireless communication:

The Board believes it to be in the interest not only of governmental, but public economy and efficiency, to permit the naval stations to handle the public service, for in the present state of the art but one station is desirable for the public interests in such places.<sup>33</sup>

To this end, the Board recommended that the Navy build a nationwide wireless network using a standardized system.<sup>34</sup> The Board presented several rationales to justify this government takeover of wireless. The first was that

30. INGLIS, *supra* note 3, at 51; *Inter-Departmental Board*, *supra* note 9.

31. *Id.* at 19.

32. *Id.* at 11.

33. *Id.* at 10.

34. *Id.*

[t]his method of placing private stations under full government supervision is desirable in order to regulate them for their mutual and the public welfare, as well as from considerations of national defense. Aside from the necessity of providing rules for the practical operation of such stations, it seems desirable that there should be some wholesome supervision of them to prevent the exploitation of speculative schemes based on a public misconception of the art.<sup>35</sup>

To this vague, paternalistic justification the Board added a second equally dubious rationale for government supervision of radio—namely, that such a takeover was necessary “[t]o prevent the control of wireless telegraphy by monopolies or trusts,”<sup>36</sup> despite the absence of any evidence that such a threat existed at the time.<sup>37</sup>

#### ENTREPRENEURS AND GOVERNMENT INTERVENTION

Roosevelt accepted the Board’s recommendations and ordered his Secretary of the Navy, Paul Morton, to execute them.<sup>38</sup> However, the Board’s efforts were undone by several factors. First, its proposals provoked a hostile reaction from the public, who looked with suspicion upon government intervention in private industry.<sup>39</sup> Second, the rapidly evolving nature of the technology itself outstripped the Board’s efforts to bring it under government supervision. Most notably, in 1906, Canadian-born inventor and entrepreneur Reginald A. Fessenden

35. *Id.*

36. *Id.* at 11.

37. EMORD, *supra* note 3, at 139.

38. *Id.*

39. DOUGLAS, *supra* note 3, at 125–26.

succeeded for the first time in transmitting the human voice by radio waves, sending Christmas greetings to the U.S. Navy's ship radio operators.<sup>40</sup> Although, these greetings heightened the Navy's desire to end private interference in wireless communications, they foreshadowed an explosion in private commercial and amateur radio use.

The civilian public was intrigued by this new medium and the accessible nature of the materials required to construct one's own radio transmitter. The electromagnetic spectrum between 1907 and 1912 consequently became increasingly occupied by radio users of all types roaming the meter band in search of contact. The Navy's wireless operators were favorite targets. The Navy, fearing that this uncontrolled proliferation of radio use would degrade maritime communications, again strongly lobbied Congress for comprehensive federal regulation of wireless communication, insisting that the ether be declared government property. Joining the Navy in this call for the nationalization of the wireless industry was Charles Nagel, Secretary of Commerce and Labor. Nagel warned that the unrestrained use of the radio waves would create a dissonant "babel," frustrating the government's efforts to put this new technology to productive use.<sup>41</sup>

The Navy's arguments for military control over the wireless industry were met with skepticism, given its own spotty history of integrating wireless into its command structure. Despite the Roosevelt Board's study, and the Navy's own awareness of the strategic role that wireless communications promised to play in military warfare, the Navy's record in integrating this new technology continued to be significant largely for its futility. In 1909, the Bureau of Equipment was still receiving reports of Navy wireless shore stations so neglected and obsolete as to be inoperative.<sup>42</sup> One report even

40. EMORD, *supra* note 3, at 139.

41. *Id.* at 140.

42. DOUGLAS, *supra* note 3, at 137.



requested that the station be moved from the deteriorating pigeon coop in which it had first been installed to more suitable premises.<sup>43</sup> Needless to say, such reports did not enhance Congress' confidence that the Navy would be a diligent steward of wireless' integration into America's military and commercial infrastructures.

Nor was the Navy's cause aided by the nation's general entrepreneurial ethos. The public, and its representatives in Congress, viewed with suspicion any effort to impose government control over private enterprise, particularly a nascent industry as promising and dynamic as wireless communication. The Board's recommendations were decried almost universally by the press. The *New York Times* opined that the proposals needlessly threatened a government takeover of "an art which is yet only in an embryo state of development."<sup>44</sup> *Electrical World* denounced the Board's recommendations, singling out the Navy for particular derision:

The Navy Department is particularly disqualified at the present time from becoming the custodian of wireless . . . . Such a policy cannot be too strongly condemned, not only because it involves an extension of military authority over what in times of peace is a purely commercial function, but because of the deadening effect on the development of the art that would inevitability result in bureaucratic control . . . . That such development would occur under military domination none, we believe, will seriously assert.<sup>45</sup>

The Navy would continue for the next several years to press for

43. *Id.* at 137.

44. N.Y. TIMES, Sept. 10, 1906, at 6.

45. ELECTRICAL WORLD, vol. 43, no. 23, at 1068 (1904); ELECTRICAL WORLD, vol. 44, no. 9, at 319 (1904).

more government control of the ether, but it would have to wait until World War I for Congress finally to intervene decisively in the nation's wireless industry and begin restricting foreign direct investment. In the meantime, Congress' early efforts to regulate radio telegraphy would continue to be most remarkable for their narrowness of scope and circumspection

#### THE FIRST FEDERAL TELECOMMUNICATIONS LEGISLATION

Undaunted by the earlier defeat of its efforts to declare the airwaves government property, the Navy seized upon sporadic instances of interference to continue to lobby for complete federal supervision of the wireless industry. Testifying in 1910 before the Senate with respect to the proposed Wireless Ship Act, the Navy painted a grim picture of the wireless situation unless it was brought under government control:

Calls of distress from vessels in peril on the sea go unheeded or are drowned out in the etheric bedlam produced by numerous stations all trying to communicate at once . . . . It is not putting the case too strongly to state that the situation is intolerable, and that it is continually growing worse.<sup>46</sup>

Secretary of Labor and Commerce Charles Nagel echoed the Navy's call for nationalizing the radio spectrum and warned, "The ether is common property, and with the cheapest apparatus unrestrained trivial messages can create Babel."<sup>47</sup> Nagel also raised the threat of the economic exploitation of this com-

46. S. REP. NO. 659, 61st Cong., 2d Sess. 4 (1910) (testimony of Lieutenant Commander Clelland Davis, Bureau of Equipment, U.S. Navy).

47. *Selections from Reports of the Department of Commerce and Labor, 1911*, in 1 DOCUMENTS, *supra* note 3, at 669.

mon resource, ominously prophesying that, unless the ether was brought under government control, "in time one company will absorb the other and establish a monopoly"<sup>48</sup> The Navy and Nagel, in short, presented an apocalyptic vision of wireless if it were allowed to develop free of centralized government control. That vision, however, failed to convince Congress that radical moves toward nationalization and central planning were necessary.

Instead, Congress enacted the Wireless Ship Act in 1910, which was directed at a far narrower goal—the better protection of life at sea.<sup>49</sup> To this end, it required only that radio equipment and operators be present on all ships leaving U.S. ports carrying fifty or more persons. This first tentative effort at wireless regulation illuminates not only Congress' small appetite for regulating this new industry, but also the country's still limited perceptions of radio telegraphy's power and potential. To Congress and most Americans in 1910, radio was perceived exclusively as a facilitator of wireless telegraphy and telephony—a tool of point-to-point communications, not point-to-multipoint. Though acknowledged for its profound economic and military significance—enabling ship-to-shore and ship-to-ship communications, as well as intercontinental communications that bypassed the existing network of undersea cables—wireless' other innovative applications, such as radio broadcasting, would not emerge for another decade.

The Wireless Ship Act was not the only pioneering legislation concerning telecommunications that Congress enacted in 1910. The Mann-Elkins Act of 1910 gave the Interstate Commerce Commission jurisdiction over interstate telegraphy and telephony and made telephone companies common carriers, thus requiring them to provide service at just and reasonable rates on nondiscriminatory terms.<sup>50</sup> However, communications

48. *Id.* at 673.

49. Act of June 24, 1910, 36 Stat. 629. See STEPHEN BROOKS DAVIS, *THE LAW OF RADIO COMMUNICATION* 32 (McGraw-Hill 1927).

50. Commerce Court (Mann-Elkins) Act, ch. 309, § 7, 36 Stat. 539 (1910).

regulation was not the primary focus of the Mann-Elkins Act. Its original purpose was to strengthen the ICC's regulatory authority over railroads and to establish a specialized court to review ICC orders.<sup>51</sup> In an ironic twist, both Representative Mann and Senator Elkins opposed the amendment regulating telephone-telegraph carriers, arguing that it should be dealt with by separate legislation specifically focused on the needs and problems of those industries, rather than being subsumed under railroad regulation.<sup>52</sup>

The American Telegraph & Telephone Company and other independent telephone companies embraced and supported this new regulation.<sup>53</sup> Although the ICC's record as a regulator of telecommunications would, in retrospect, look rather anemic and lead Congress to transfer the agency's jurisdiction over interstate telecommunications to a new Federal Radio Commission in 1927, this body of railroad regulators would, for the first few years at least, use its powers under the Mann-Elkins Act to leave its mark on American telecommunications. With the Department of Justice, the ICC investigated the allegedly monopolistic enterprises of AT&T.<sup>54</sup> Under the threat of antitrust action by the ICC, AT&T agreed to the so-called "Kingsbury Commitment" in 1913.<sup>55</sup> The agreement required AT&T to provide interconnection to, and to stop acquiring, independent telephone companies.<sup>56</sup> The Kingsbury Commitment and its blanket restriction on AT&T's acquisition of

See also MICHAEL K. KELLOGG, JOHN THORNE & PETER W. HUBER, *FEDERAL TELECOMMUNICATIONS LAW* 15 (Little, Brown & Co. 1992).

51. MAX PAGLIN, *A LEGISLATIVE HISTORY OF THE COMMUNICATIONS ACT OF 1934*, at 6 (Oxford University Press 1989).

52. *Id.*

53. *Id.*

54. *Id.* at 8.

55. *Id.* at 7.

56. See *id.* at 80-81; PETER TEMIN, *THE FALL OF THE BELL SYSTEM: A STUDY IN PRICES AND POLITICS* 9-11 (Cambridge University Press 1987).

independent carriers was terminated in 1921.<sup>57</sup> In its place Congress enacted the Willis-Graham Act, conferring authority on the ICC to approve telephone transactions and thereby grant antitrust immunity to those approved.<sup>58</sup> In this capacity the ICC made its largest impression on the field, but otherwise influenced regulatory policy only negligibly.<sup>59</sup>

#### THE RADIO ACT OF 1912

Following the sinking of the *Titanic* in 1912, Congress revisited the issue of radio interference and wireless' regulation in general. The *Titanic* disaster propelled radiotelegraphy into the fore of public consciousness, as wireless played a dramatic role in relaying the terrible events as they unfolded to a disbelieving nation. In the disaster's aftermath there was considerable speculation that amateur radio use had cluttered the airwaves on that fateful night, interfering with the other ships' and stations' ability to hear the *Titanic*'s distress signal and thereby hampering rescue efforts. In response, Congress passed the Post-Titanic Radio Communications Act—or as it more simply became known, the Radio Act of 1912<sup>60</sup>—prohibiting the use of wireless for radio communication without a license issued by the Secretary of Commerce and Labor.<sup>61</sup>

The new statute imposed other regulatory restrictions as well. It required that applicants designate a specific wavelength on which they proposed to operate.<sup>62</sup> It limited wavelength use

57. PAGLIN, *supra* note 51, at 8.

58. Willis-Graham Act, ch. 20, 42 Stat. 27 (1921) (current version at 47 U.S.C. § 221(a)). For discussion of this legislation, see KELLOGG, THORNE & HUBER, *supra* note 50, at 148; PAGLIN, *supra* note 51, at 8.

59. *Id.*

60. Radio Communications Act of Aug. 13, 1912, Pub. L. No. 62-264, 37 Stat. 302 (1912).

61. *Id.* § 1.

62. *Id.* § 2.

to 300 and 600 meters.<sup>63</sup> It prohibited private or commercial shore stations from using their transmitters during the first fifteen minutes of each hour, to prevent interference with naval vessels that used this period to transmit their signals.<sup>64</sup> It empowered the Secretary of Commerce and Labor to change meter-band limitations and to revoke licenses for "good cause," though not to deny any applicant a license.<sup>65</sup> And it gave the President the power, which Woodrow Wilson would soon exercise, to seize any radio apparatus in time of war.<sup>66</sup>

The Radio Act of 1912 also introduced foreign ownership restrictions into U.S. communications regulation. With the eager tutelage of the U.S. Navy, Congress by 1912 clearly comprehended the economic and military implications of radio. The new statute mandated that the Secretary of Commerce and Labor grant radio licenses to appropriate applicants, though it gave him discretion only to select a proper wavelength.<sup>67</sup> Section 2 provided that "such license shall be issued only to citizens of the United States or Puerto Rico, or to a company incorporated under the laws of some State or Territory of the United States or Puerto Rico . . . ."<sup>68</sup> At the Navy's behest, Congress inserted the citizenship requirement to prevent foreign agents in the U.S. from transmitting messages by radio to other nations, especially in time of war or other international tension.<sup>69</sup> Additionally, contemporary marine law, which served as

63. *Id.* § 4, reg. 1.

64. *Id.* § 4, reg. 11.

65. *Id.* § 4, reg. 1.

66. *Id.* § 2.

67. *Hoover v. Intercity Radio Co.*, 286 F. 1003 (D.C. Cir. 1923). For a discussion of this decision, see THOMAS G. KRATTENMAKER & LUCAS A. POWE, *REGULATING BROADCAST PROGRAMMING* 5-7 (MIT Press & AEI Press 1994).

68. 37 Stat. 302 § 2.

69. *Radio Communication: Hearings on H.R. 15357 Before the House Comm. on the Merchant Marine and Fisheries*, 62d Cong., 2d Sess. 70 (1912) (statement of Lieutenant Commander David W. Todd, U.S. Navy) [hereinafter

a model for the 1912 legislation because radio was at that time largely a marine operation, required ship masters to be U.S. citizens.<sup>70</sup>

NATIONAL SECURITY,  
PROPAGANDA, AND TRADE

The inclusion of foreign ownership restrictions in the Radio Act of 1912 stemmed from Congress' genuine concerns that foreign control of radio in the U.S could compromise national security and be used for propaganda purposes to influence the American citizenry during times of conflict. These fears seem overstated nearly a century later, but they were real at the time and thus not a legislative subterfuge by which to effect a protectionist policy on foreign direct investment. This is not to say that trade concerns never entered the debate over the inclusion of alien ownership restrictions. They did and were the subject of controversy. But the manner in which key members of Congress debated trade issues clarifies that the legislative intent for enacting the foreign ownership restrictions in Radio Act of 1912 was *not* to effect a policy against foreign direct investment in the U.S. wireless industry. Rather, Congress made the judgment that some sacrifice in terms of the free flow of capital into the nascent U.S. wireless industry was the necessary price to pay for the improvement in national security that the Navy believed its proposed foreign ownership restrictions would produce. Congress accepted this bargain knowing that it would lessen opportunities for investment abroad by U.S. communica-

*H.R. 15357 Hearings*]; *Radio Communication: Hearings on S. 3620 and S. 5334 Before the Subcomm. of the Senate Comm. on Commerce*, 62d Cong., 2d Sess. 9, 36 (1912) (statement of Lieutenant Commander Todd) [hereinafter *S. 3620 and S. 5334 Hearings*].

70. *Id.* at 36-37 (statement of E.T. Chamberlain, Commissioner of Navigation, Department of Commerce and Labor); *S. REP. NO. 698*, 62d Cong., 2d Sess. 12-13 (1912).

tions firms and slow the growth of the wireless industry in the U.S.

In the House, the foreign ownership restriction was denounced by Representative James R. Mann from Chicago—the eponymous co-sponsor two years earlier of the Mann-Elkins Act and the Republicans' minority floor leader.<sup>71</sup> The alien ownership restriction in the 1912 legislation, Mann argued, foreclosed “close interchange between nations and people” and was unjustified on national security grounds.<sup>72</sup> He specifically objected to the legislation's application against Canadians: “We want permission over there to operate radio stations. Why should we say they should not have permission here?”<sup>73</sup>

Not surprisingly, Mann was joined by The American Marconi Company—then the nation's preeminent company pioneering the development of radio technology and, more significantly, a foreign-owned subsidiary of British Marconi—in objecting to these restrictions as impeding commerce.<sup>74</sup> John Bottomley, testifying on behalf of American Marconi, specifically objected to the act's licensing provisions as unduly restrictive and unnecessary. The licensing scheme, he argued,

does not provide that we can put a station down and demand a license. It would be within their option to give us a license or not, just as they saw fit. I do not understand why wireless should be singled out to be licensed and legislated for any more than land lines or telephone companies, or anything of that sort. The wireless

71. BIOGRAPHICAL DIRECTORY OF THE AMERICAN CONGRESS, 1774–1971 at 1333 (Government Printing Office 1971) [hereinafter BIOGRAPHICAL DIRECTORY].

72. 48 CONG. REC. 10,503 (1912) (statement of Rep. James R. Mann).

73. *Id.*

74. S. 3620 and S. 5334 Hearings, *supra* note 70, at 35–37 (statement of John Bottomley, representing Marconi Wireless Telegraph Co. of America).



companies are in a somewhat initiatory state. They do not want to be hampered by these restrictions . . . . We are bitterly opposed to the adoption of any bill which hinders our work and this licensing feature is one we object to.<sup>75</sup>

Despite these objections, Congress kept the citizenship requirement in the Radio Act of 1912, marking the beginning of Congress' regulatory restrictions on foreign ownership in the wireless communications industry.

National security concerns trumped those voiced in defense of free trade. Ironically, concerns regarding the bill's negative impact on commerce and trade proved far more prescient than those predicated on the need to protect the U.S. from foreign radio threats. While the bill proved to be of questionable efficacy as a prophylactic against foreign influence and interference in domestic affairs, it succeeded and continues to succeed as protectionist trade policy. It is in this latter form that foreign ownership restrictions now gain their significance, a form far distant from the purposes for which they were initially enacted.

#### THE COLLAPSE OF FOREIGN OWNERSHIP RESTRICTIONS UNDER THE WICKERSHAM OPINION

Within weeks of their enactment, Attorney General George W. Wickersham had to construe the alien ownership restrictions in the new Radio Act. His task foreshadowed the difficulty that enforcing alien ownership restrictions would pose in the future.

A New York corporation, Atlantic Communication Company, applied for a license to operate transatlantic radio equipment on Long Island. Atlantic Communication, however, was the subsidiary of the German telecommunications firm

<sup>75</sup> *Id.* at 17-18.

Telefunken.<sup>76</sup> The Secretary of Commerce and Labor thus faced a sticky question that the text of the Radio Act of 1912 failed to address: If a U.S. corporation is the subsidiary of a foreign company, is the Secretary of Commerce and Labor prohibited by the Radio Act from granting the U.S. corporation a radio license? No, concluded the Attorney General. The statute did not delegate to the Secretary of Commerce and Labor any discretion in granting a license when an applicant came within the class of persons or corporations eligible for licensing.<sup>77</sup> Because Atlantic Communication was duly incorporated under New York law, the Secretary was *required* to issue the company a radio license.<sup>78</sup>

The Attorney General's straightforward reading of the Radio Act exposed in an instant the new statute's inability to counter the threat to which its alien ownership restrictions were directed: foreign influence and control over wireless companies operating in the U.S. Within months of the enactment of the Radio Act on August 13, 1912, Congress' first attempt at proscribing foreign influence in domestic wireless communications had been eviscerated. Attorney General Wickersham surely recognized that his opinion would have the effect of dignifying a loophole in the foreign ownership restrictions through which a truck could be driven. In what might have been a gesture to allow Congress to save face, the Attorney General noted hypothetically that the Radio Act still empowered the President to close any station in time of war, public peril, or disaster.<sup>79</sup> Absent such compelling circumstances, however, foreign governments and companies were able to own and control wireless companies in the U.S. through the simple artifice of creating holding companies incorporated in the U.S.

76. DOUGLAS, *supra* note 3, at 269.

77. *Radio Communication—Issue of Licenses*, 29 OP. ATT'Y GEN. 579, 582 (1912).

78. *Id.* at 580.

79. *Id.* at 582.

Attorney General Wickersham surely was not the first lawyer in Washington in 1912 to provide a correct interpretation of the straightforward language of the foreign ownership restrictions in the new Radio Act. It is no more believable that the Secretary of Commerce and Labor was surprised to learn that even after passage of the Radio Act he lacked power to bar foreigners from investing in the U.S. wireless industry. Any corporate lawyer would have immediately seen that the incorporation of an American subsidiary would enable one to circumvent the Radio Act's foreign ownership restrictions. Why then did the Secretary of Commerce and Labor not simply issue Atlantic Communications its license rather than seek an opinion beforehand from the Attorney General saying that the Secretary had no choice? Why, moreover, did Congress enact such a porous provision?

We cannot be sure of the answers to these questions, but it is useful to recall the political setting in 1912. Since his election in 1908, after serving as Theodore Roosevelt's Vice President, President William Howard Taft had so infuriated his former boss that Roosevelt had entered the presidential race in 1912 as an independent and founder of the Bull Moose Party. The three-way race benefited the Democratic nominee, Woodrow Wilson, who took office as President in March 1913. As we have seen, in 1912 the Republican minority leader in the House, James Mann, unsuccessfully opposed the citizenship requirement in the Radio Act on the grounds that it would induce Canada and other nations to deny U.S. firms the right to hold radio licenses. Although the Republicans had lost the debate in Congress on unrestricted foreign investment in wireless, at least they still controlled the Executive Branch, for the time being, when the Radio Act was enacted in August. A third-term President Roosevelt would presumably defer to the Navy on questions concerning the wireless industry, as he had done in 1904, and a President Wilson would presumably have a Progressive agenda that favored government control more than unfettered capitalism.

In this setting, an opinion from the Attorney General on the corporate subsidiary question could be produced quickly—long before the results of the presidential election might require the Taft administration to clean out their desks. In fact, the request from the Secretary of Commerce and Labor for an advisory opinion from the Attorney General was dated October 22, or two weeks from the election. The Attorney General's reply was dated November 22, well after the election.

Alternatively, Taft's administration could have denied Atlantic Communication a license and waited for the company to establish through litigation the same legal proposition that the Attorney General's opinion could be expected to announce. But that route would have had the obvious disadvantage of frustrating the interpretation that Taft's administration, we hypothesize, wanted to promote. It would have the additional disadvantages of being slower, of spilling into a new presidential term with a new Chief Executive who might instruct his Attorney General to change the government's legal theory in the case, and of introducing the uncertainty of relying on judges, rather than Attorney General Wickersham, to answer this question of law.

This scenario grows more complicated, for in the same letter of October 24, 1912 the Secretary posed a second question to the Attorney General. If the Attorney General determined that the Secretary had no discretion to deny Atlantic Communication a license, then, asked the Secretary,

can the application for the license described be denied until by reciprocal arrangement with Germany, American capital is guaranteed the right of investing in and controlling corporations organized under German laws to operate coast stations in Germany for trans-Atlantic radio communication?<sup>80</sup>

80. *Id.*

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In other words, the Secretary was asking whether he had the legal authority to condition foreign direct investment in the U.S. wireless industry on market access abroad for American investors. As we shall see in chapter 7, the Federal Communications Commission was still asking this same question eighty-three years later with respect to its powers under section 310(b) of the Communications Act of 1934.

The FCC of 1995 would not like the answer that Attorney General Wickersham gave to this second question in 1912:

This is answered by what has been said as the mandatory character of the licensing provisions of the act. An arrangement somewhat similar to that indicated in your question was required by the President as a condition to the landing of foreign-owned cables. But that case is not analogous. Action by the Executive was justified there because Congress had not legislated, and it was recognized that the power to impose conditions at all was subject to subsequent congressional action. Here, Congress has acted and has covered the subject, and, as above stated, you have no discretion but to carry out the provisions of the statute. Therefore, your second question must also be answered in the negative.<sup>81</sup>

Wickersham had delivered a stunning victory for the outgoing free traders in Taft's Republican administration. Not only would foreign capital be allowed to continue flowing into the U.S. wireless industry, but such foreign direct investment could not be made conditional on the existence of reciprocal opportunities

81. *Id.* at 582-83 (citations omitted).

to invest in the foreigner's home market.

Within two years of the enactment of the Radio Act of 1912 and the Wickersham opinion, the inadequacy of the statute's foreign ownership restrictions in protecting national security was dramatically and damagingly illustrated. Europe would be torn by war, and a new President would be forced to condemn Atlantic Communication's wireless station, just as Attorney General Wickersham had conjectured in 1912.<sup>82</sup> But the government's appropriation of wireless facilities did not occur until strong circumstantial evidence indicated that Germany had used its American-based wireless facilities to compromise the national security of the U.S. before its entry into World War I.

#### ENTER THE CORPORATE LIONS

The timidity that marked Congress' regulation of the wireless industry between 1910 and America's entrance into World War I belied the bold advances, shifting alignments of power, and restructurings that transformed the industry during the same period and set the stage for what would follow. If the first era of radio telegraphy is properly characterized by the ascent of the brilliant entrepreneurs and inventors—Marconi, Fessenden, and Lee De Forest—then the next era is characterized by their eclipse. Although these personalities continued to play significant roles in the development of radio technology, sovereignty over the future of wireless shifted to those who owned the key patents. The new titans were corporations such as AT&T, General Electric, and Westinghouse, which wrestled with one another, and with the U.S. Navy, to acquire patents.

In its first decade of development, wireless remained a phenomenon of uncertain potential. On one side was a collection of mercurial inventors and on the other an imperious U.S.

82. DAVIS, *supra* note 49, at 49.

Navy—the former trying to push their new technology to the limit, the latter acting to restrain it. World events and technological improvements pushed wireless increasingly into the mainstream where other corporate players began to take interest. The *Titanic* disaster marked the emergence of wireless as more than a curiosity; it had become a vital part of modern telecommunications. In the aftermath of the tragedy, Congress required in the Radio Act of 1912 that *all* ships have wireless on board.<sup>83</sup> Radio telegraphy further burnished its image by playing vital roles in subsequent emergencies at sea and on land—leading to the rescue of stricken ships and providing vital communication when natural disasters such as blizzards crippled wireline telephone and telegraphy.<sup>84</sup>

Not surprisingly, the corporate entity most interested in the evolution of wireless technology was AT&T. Though publicly dismissive of radio telegraphy in its early stages, AT&T President Theodore Vail and head researcher J.J. Carty carefully tracked wireless' development.<sup>85</sup> In the wake of continued technological advancements and public relations successes, wireless no longer seemed cabined to such fringe communications needs as those which exist in the military or at sea. By 1913, Marconi was predicting that long-distance and transoceanic voice transmission would soon be possible by radio.<sup>86</sup> Others forecasted a future where everyone would communicate through his own wireless set.<sup>87</sup> Fanciful or not, Vail faced the real possibility that AT&T could find itself in competition with another long-distance network with which it would have to interconnect, or, as in the case of competition between telephony and telegraphy, perhaps be undercut by the rival technology.<sup>88</sup> To Vail, this possibility was unacceptable. His

83. 37 Stat. 302 § 1.

84. DOUGLAS, *supra* note 3, at 242.

85. *Id.*

86. *Id.*

87. *Id.* at 242.

88. ITHIEL DE SOLA POOL, *TECHNOLOGIES OF FREEDOM* 31 (Belknap

vision for AT&T was for it to be a national monopoly—a universal long-distance voice transmission system complete unto itself. As Vail described his vision:

One system with a common policy, common purpose and common action; comprehensive, universal, interdependent, intercommunicating like the highway system of the country, extending from every door to every other door, affording electrical communication of every kind, from every one at every place to every one at every other place.<sup>89</sup>

Consequently, any emergent technology that threatened the integrity of AT&T's dominion needed to be brought under its control. The trick, of course, was how to gain that control.

Though still not a technological innovator, AT&T and, more specifically, Carty, were keenly aware of the advances being made in wireless and realized that the solution to the problems vexing voice transmission lay in a continuous wave technology that amplified transmissions. The necessary device to provide such amplification was called a "repeater." Carty predicted at the time:

Whoever can supply and control the necessary telephone repeater will exert a dominating influence on the art of wireless telephony . . . . A successful telephone repeater, therefore, would not only react most favorably upon our service where wires are used, but might put us in a position of control with respect to the art of wireless telephony should it turn out to be a

Press/Harvard University Press 1983).

89. *Quoted in id.* at 29–30 (original source unidentified).



factor of importance.<sup>90</sup>

In 1912, after being frustrated in its own efforts to develop such a repeater, AT&T began experimenting with De Forest's audion tube, with which the inventor had achieved significant success in voice amplification.<sup>91</sup> Bell scientists improved on De Forest's audion tube, exhausting the gas from it and transforming it into a vacuum tube.<sup>92</sup> However, while AT&T now had its repeater and patents on its improvement, the basic rights still belonged to De Forest.<sup>93</sup>

The subsequent events leading to AT&T's acquisition of De Forest's patents are rife with subterfuge, drama, and acrimony.<sup>94</sup> When the dust settled in 1917, AT&T had gained control over perhaps the most significant invention of the era—and control over the future of wireless telegraphy. AT&T's acquisition of De Forest's patents also signified the beginning of a new phase in the evolution of wireless technology. As Douglas wrote of the acquisition: "The transfer of technological control from independent inventor to corporate research lab was complete."<sup>95</sup>

AT&T was not the only corporation to secure control over continuous wave technology during this period. While AT&T possessed the rights to the vacuum tube, General Electric developed and patented an alternative technological means of continuous wave transmission: the alternator.<sup>96</sup> GE and AT&T, however, had different objectives. Whereas AT&T wanted to control continuous wave technology to protect its monopoly over long-distance voice telecommunications, GE had

90. *Quoted in* DOUGLAS, *supra* note 3, at 243.

91. *Id.*

92. *Id.*

93. *Id.* at 243–44.

94. *See id.*

95. *Id.* at 247.

96. *Id.* at 252.